End of Result Set

☑ ▓▓▓▓▓ Generate Collection ▓▓▓ | Print |

L5: Entry 16 of 16   File: USPT   May 10, 1994

DOCUMENT-IDENTIFIER: US 5310997 A
** See image for Certificate of Correction **
TITLE: Automated order and delivery system

Brief Summary Text (4):
Many computer-based systems have been devised for automating various aspects of the
shopping process. Electronic inventory, product scanning and order processing
devices are available in many retail establishments to increase the efficiency of
transactions and thereby improve service to the customer. Such equipment is
utilized in some stores having a format in which the retail point of sale and
merchandise warehouse are located in a combined facility. This form is often
operated by placement of just one representative sample of the especially large
items in the retail area, with the remainder stored in the remote warehouse portion
of the facility in effort to maximize the use of display floor space. When an item
is purchased, the customer must wait while the merchandise is routed to a
designated pick-up and loading area.

Detailed Description Text (9):
The POS controller 12 processes select functions in cooperation with the other
elements of the system 10. The controller 12 performs new member card processing
functions in connection with the new member processing system 22. The controller 12
includes a lottery file which contains up-to-date information of customers in the
store for access by other systems 30, including a disc jockey system for performing
in-store lottery prize give-aways and other activities. Membership, pricing,
inventory and transaction files are created and maintained in the controller 12.
With respect to transaction files, a transaction record is established for each
customer in cooperation with the pen-based computers 18 through the server 20. As a
transaction record is created for the items purchased by each customer, the
controller 12 cooperates in real time with an AS/400 distribution center system
(DCS) warehouse inventory system application running on the main store processor
14. The controller 12 creates picking and revers picking ticket data for directing
warehouse delivery and return, respectively, of merchandise. Final checkout
functions are performed by the controller 12 in cooperation with the POS checkout
registers 16.

Detailed Description Text (10):
The main store processor 14 is an IBM AS/400 which uses an IBM OS/400 operating
system. The main store processor 14 includes as its primary application the AS/400
distribution center system (DCS) warehouse inventory system. The DCS is a real time
distribution control system which tracks merchandise and directs work flow in the
warehouse. The DCS relies on a native relational database in the processor 14 to
track and control movable units. Scanners 40 are connected to the processor 14 via
line 42. The scanners 40 utilize radio frequency terminals 44 to provide work
direction and receive input from scanning guns 46. The DCS residing in the
processor 14 includes several modules that work together to provide tracking
control as well as processing in the form of receiving, picking and shipping. The
processor 14 interfaces with the controller 12 and the merchandising system 56 so
that the applications, including purchase order and customer order applications,

have access to the latest data. The processor 14 includes an interface for translating the various applications to and from the controller 12. The processor 14 maintains and runs a primary membership and sales history application, consolidates daily sales and payroll for transmission to the headquarters main frame 52. The processor 14 receives price change and related information from the merchandising system 56 for use by the controller 12. The processor 14 further receives picking and reverse picking requests from the controller 12 for use by the DCS warehouse application.

Detailed Description Text (12):
The new member processing system 22 comprises a Tandy personal computer (PC) attached via the token ring 34 to the POS controller 12. It is understood that each PC comprising the system 22 will be running 3151 emulation. The new member processing system 22 includes application code which operates in the POS controller 12. The system 22 captures customer information from data entry and links the customer information to a unique member identification. The member identification is included on an unique identification card 66 which is issued to the customer. Utilizing the system 22, membership files are created which include an AS/400 membership file which will reside on the main store processor 14, and a 4680 membership file on the POS controller 12, which contains a subset of the information on the AS/400 membership file. The 4680 membership file is a keyed file with a 16-digit membership number serving as the key to the file. Additional detail regarding member processing and the use of member information is discussed further below.

Detailed Description Text (16):
The computer 18 scans the customer's member card 66; then scans the product code label 68 associated with a particular piece of merchandise. A transaction record of the sale is created and forwarded to the controller 12. Selection and delivery scheduling options are provided to the customer by the computer 18. The computer 18 is capable of retrieving credit balance information for the customer. The transaction record created for the sale is forwarded from the controller 12 to the main store processor 14, for immediate use by the DCS Warehouse retrieval system. Additional detail regarding merchandise selection, order and delivery functions involving the computers 18, the controller 12 and the processor 14 is described further below.

Detailed Description Text (32):
A customer enters the merchandise display floor 202 through a second information tunnel 232 adjoining the rotunda 222. An additional scanner 220C is available for scanning the customer's member card 66 prior to entry into the merchandise display floor 202. While not shown, it is understood that the merchandise display floor 202 may include interspersed information kiosks located throughout the store to give the customer specific product information. Also, it is understood that the merchandise display floor 202 may have different departmental areas, such as major appliances, video/camcorders, home improvement, home theater, entertainment, car electronics, satellite dishes and associated equipment, cellular phones, television, sound rooms, audio and home office. A customer can purchase any of the items throughout the store as will be described.

Detailed Description Text (41):
There is a two-way interface between the DCS application residing on the AS/400 processor 14 in the warehouse 204, and the POS controller 12. The POS controller 12 relies on the DCS application to provide accurate information of sale inventory. The DCS relies on the controller 12 to provide particular order information. Every time a customer places an order, a pen-based sales transaction computer 18 order interface is triggered to pass that order information along to the DCS system. The computer 18 interface sends the DCS customer pick up orders, delayed customer pick up orders, home delivery orders, installation orders and UPS delivery orders. The processing of orders is code-file driven, or directed by using an order/command

function. Order picking can be done in an interactive fashion through the use of RF terminals such as scanner 44. Warehouse personnel can perform single order picking, batch or wave picking where many orders are picked simultaneously and sorted at a staging area (not shown). When an order is received from the computer 18 interface for immediate customer pick up at the <u>customer service</u> desk in the internal pick-up zone 206 or the pick-up loading zone 208, the order is released automatically and the inventory for the order is allocated from the warehouse 204. A pick will be generated and presented to a warehouse picker employee based on the picker's profile. The sequencing of picks are based on the order type, with customer pick-ups having the highest priority. Within the customer pick-up order type, the picks are sequenced by first-in, first-out (FIFO). Once the picker selects an item for picking, a customer pick-up label with the customer's name and order number is automatically generated on the portable printer of the picker's scanner 44. After the item is picked and labeled, it is placed on a conveyor (not shown) where it is diverted to an appropriate destination location, 206, 208.

<u>Detailed Description Text</u> (51):
It is understood that the above <u>product information</u> comprising the transaction record was entered into the computer 18 using the light pen 18A to scan the product code labels 68 and to select various options on the screen 400.

<u>Detailed Description Text</u> (52):
If additional purchases are to be added to the transaction record, in step 328 the appropriate item number is entered into the computer 18 by the operator, such as by scanning the item label 68. In step 330, a determination is made whether the selected item of merchandise is stock. If the selected item is not in stock, in step 332 the computer 18 prompts the operator to suggest products comparable to the unavailable merchandise by displaying information on the screen of the computer. In step 334, a determination is made whether the customer desires information concerning products comparable to the unavailable merchandise. If the customer desires information concerning products comparable to the unavailable merchandise, the computer 18 in step 336 displays comparable <u>product information</u>. If the customer does not desire information concerning products comparable to the unavailable merchandise, execution proceeds directly to step 338

CLAIMS:

1. Apparats for processing merchandise sale transactions for customers in a point of sale and warehouse facility, the apparatus comprising:

a main processor including a database for storing customer identification information and merchandise information and including program instructions for processing a sale transaction record for each customer;

a point of sale system coupled with said main processor, said point of sale system including program instructions responsive to entry of a customer identification number for accessing said database to display customer identification information and for generating said sale transaction record;

said point of sale system including item entry means responsive to entry of a merchandise item identification number for accessing said database to display merchandise information pertaining to said item to the customer and for selecting said item for addition to said sale transaction record;

said point of sale system including delivery method entry means for displaying merchandise delivery method <u>information to the customer</u> and for selecting delivery method instructions for addition to said sale transaction record;

said point of sale system including total command means for indicating acceptance of said sale transaction record by the customer and for transmitting said sale

transaction record to said main processor to effectuate warehouse delivery of said selected merchandise items to the customer according to said selected delivery method instructions; and

wherein said point of sale system comprises a controller coupled to said main processor and at least one pen-based computer coupled to said controller via radio frequency transmissions;

said customer identification number being entered into said pen-based computer from a customer membership card associated with the customer.

13. Apparatus for processing merchandise sale transactions for customers in a point of sale and warehouse facility, the apparatus comprising;

a main processor including a database for storing customer identification information and merchandise information and including program instructions for processing a sale transaction record for each customer;

a point of sale system coupled with said main processor, said point of sale system including program instructions responsive to entry of a customer identification number for accessing said database to display customer identification information and for generating said sale transaction record;

said point of sale system including item entry means responsive to entry of a merchandise item identification number for accessing said database to display merchandise information pertaining to said item to the customer and for selecting said item for addition to said sale transaction record;

said point of sale system including delivery method entry means for displaying merchandise delivery method information to the customer and for selecting delivery method instructions for addition to said sale transaction record;

said point of sale system including total command means for indicating acceptance of said sale transaction record by the customer and for transmitting said sale transaction record to said main processor to effectuate warehouse delivery of said selected merchandise items to the customer according to said selected delivery method instructions; and

a warehouse system coupled with said main processor; said warehouse system including program instructions responsive to said acceptance indication of said sale transaction record from said command means for generating a merchandise pick request in said warehouse to locate said selected merchandise and initiate delivery of said merchandise according to said selected delivery method instructions;

wherein said sale transaction record for each customer includes information indicating the customer identification number, accumulated frequent shopper points for the customer, item number, description, price and delivery method for each selected item of merchandise.

15. Apparatus for processing merchandise sale transactions for customers in a point of sale and warehouse facility, the apparatus comprising:

a main processor including a database for storing customer identification information and merchandise information and including program instructions for processing a sale transaction record for each customer;

a point of sale system coupled with said main processor, said point of sale system including program instructions responsive to entry of a customer identification number for accessing said database to display customer identification information and for generating said sale transaction record;

said point of sale system including item entry means responsive to entry of a merchandise item identification number for accessing said database to display merchandise information pertaining to said item to the customer and for selecting said item for addition to said sale transaction record;

said point of sale system including delivery method entry means for displaying merchandise delivery method information to the customer and for selecting delivery method instructions for addition to said sale transaction record;

said point of sale system including total command means for indicating acceptance of said sale transaction record by the customer and for transmitting said sale transaction record to said main processor to effectuate warehouse delivery of said selected merchandise items to the customer according to said selected delivery method instructions; and

a warehouse system coupled with said main processor, said warehouse system including program instructions responsive to said acceptance indication of said sale transaction record from said command means for generating a merchandise pick request in said warehouse to locate said selected merchandise and initiate delivery of said merchandise according to said selected delivery method instructions;

wherein said item entry means includes means for selecting purchase of items by the customer at a reduced price utilizing frequent shopper points subtracted from said accumulated total of points available for the customer.

22. The apparatus of claim 15 wherein said point of sale system further comprises delivery information means of entering delivery location information of the customer for addition to said sale transaction record.

25. The apparatus of claim 15 wherein said point of sale system further comprises means for displaying warranty information for a selected item and for adding customer-selected warranty options to said sale transaction record.

27. Apparatus for processing merchandise sale transactions for customers in a point of sale and warehouse facility, the apparatus comprising:

a main processor including a database for storing customer identification information and merchandise information and including program instructions for processing a sale transaction record for each customer;

a point of sale system comprising a controller coupled to said main processor and at least one pen-based computer in communication with said controller via radio frequency transmissions, said point of sale system including program instructions responsive to entry of a customer identification number for accessing said database to display customer identification information on said computer and for generating said sale transaction record;

said point of sale system including item entry means responsive to entry of a merchandise item identification number for accessing said database to display merchandise information pertaining to said item on said computer and for selecting said item for addition to said sale transaction record;

said point of sale system including delivery method entry means for displaying merchandise delivery method information on said computer and for selecting delivery method instructions for addition to said sale transaction record;

said point of sale system including total command means for indicating acceptance of said sale transaction record by the customer and for transmitting said sale transaction record to said main processor to effectuate warehouse delivery of said

selected merchandise items to the customer according to said selected delivery method instructions;

a warehouse system coupled with said main processor including program instructions responsive to said acceptance indication of said sale transaction record from said point of sale system for generating a merchandise pick request in said warehouse to locate said selected merchandise and initiate delivery of said merchandise according to said selected delivery method instructions;

a check-out system coupled with said point of sale system including program instructions responsive to entry of said customer identification number for accessing said sale transaction record and accepting payment for said selected merchandise items; and

a new member processing system coupled to said controller for entering customer information in said database, said system comprising means for adding a customer to said database by issuing a customer identification number for association with customer name, address and credit data; means for displaying customer information; and means for issuing a customer member card including said customer identification.

34. A method for processing merchandise sale transactions for customers in a point of sale and warehouse facility, the method comprising:

storing customer identification information, merchandise information and a sale transaction record for each customer in a database;

entering a customer identification number to access said database for display of the customer's identification information and to generate said sale transaction record;

entering a merchandise item identification number for accessing said database to display merchandise information pertaining to said item and for selecting said item for additon to said sale transaction record;

displaying merchandise delivery method information to the customer for selecting delivery method instructions and for adding said instructions to said sale transaction record;

indicating acceptance of said sale transaction record by the customer to effectuate warehouse delivery of said selected merchandise items to the customer according to said selected delivery method instructions;

generating a merchandise pick request in said warehouse, responsive to said acceptance indication of said sale transaction record, to locate said selected merchandise and initiate delivery of said merchandise according to said selected delivery method instructions; and;

displaying additional products required for a selected item and adding customer-selected ones of said additional products to said sale transaction record.

35. A method for processing merchandise sale transactions for customers in a point of sale and warehouse facility, the method comprising:

storing customer identification information, merchandise information and a sale transaction record for each customer in a database;

entering a customer identification number to access said database for display of the customer's identification information and to generate said sale transaction record;

entering a merchandise item identification number for accessing said database to display merchandise information pertaining to said item and for selecting said time for addition to said sale transaction record;

displaying merchandise delivery method <u>information to the customer</u> for selecting delivery method instructions and for adding said instructions to said sale transaction record;

indicating acceptance of said sale transaction record by the customer to effectuate warehouse delivery of said selected merchandise items to the customer according to said selected delivery method instructions;

generating a merchandise pick request in said warehouse, responsive to said acceptance indication of said sale transaction record, to locate said selected merchandise and initiate delivery of said merchandise according to said selected delivery method instructions; and;

displaying suggested accessories for a selected item and adding customer-selected ones of said accessories to said sale transaction record.

46. The method of claim 35 further comprising entering delivery location <u>information of the customer</u> for addition to said sale transaction record.

47. A method for processing merchandise sale transactions for customers in a point of sale and warehouse facility, the method comprising;

storing customer identification information, merchandise information and a sale transaction record for each customer in a database;

entering a customer identification number to access said database for display of the customer's identification information and to generate said sale transaction record;

entering a merchandise item identification number for accessing said database to display merchandise information pertaining to said item and for selecting said item for addition to said sale transaction record;

displaying merchandise delivery method <u>information to the customer</u> for selecting delivery method instructions and for adding said instructions to said sale transaction record;

indicating acceptance of said sale transaction record by the customer to effectuate warehouse delivery of said selected merchandise items to the customer according to said selected delivery method instructions;

generating a merchandise pick request tin said warehouse, responsive to said acceptance indication of said sale transaction record, to locate said selected merchandise and initiate delivery of said merchandise according to said selected delivery method instructions; and;

displaying <u>warranty information</u> for a selected item and adding customer-selected warranty options to said sale transaction record.

48. A method for processing merchandise sale transactions for customers in a point of sale and warehouse facility, the method comprising:

storing customer identification information, merchandise information and a sale transaction record for each customer in a database;

entering a customer identification number to access said database for display of the customer's identification information and to generate a said sale transaction record;

entering a merchandise item identification number for acessing said database to display merchandise information pertaining to said item and for selecting said item for addition to said sale transaction record;

displaying merchandise delivery method <u>information to the customer</u> for selecting delivery method instructions, said instructions being added to said sale transaction record;

indicating acceptance of said sale transaction record by the customer to effectuate warehouse delivery of sad selected merchandise items to the customer according to said selected delivery method instructions;

generating a merchandise pick request in said warehouse, responsive to said acceptance indication of said sale transaction record, to locate said selected merchandise and initiate delivery of said merchandise according to said selected delivery method instructions; and

accessing said sale transaction record and accepting payment for said selected merchandise items;

altering said sale transaction record; and

generating a merchandise reverse-pick request in said warehouse to initiate cancellation of a previously issued pick request.

49. A method for processing merchandise sale transactions for customers in a point of sale and warehouse facility, the method comprising:

storing customer identification information, merchandise information and a sale transaction record for each customer in a database;

entering a customer identification number to access said database for display of the customer's identification information and to generate a said sale transaction record;

entering a merchandise item identification number for accessing said database to display merchandise information pertaining to said item an for selecting said item for addition to said sale transaction record;

displaying merchandise delivery method <u>information to the customer</u> for selecting delivery method instructions, said instructions being added to said sale transaction record;

indicating acceptance of said sale transaction record by the customer to effectuate warehouse delivery of said selected merchandise items to the customer according to said selected delivery method instructions;

generating a merchandise pick request in said warehouse, responsive to said acceptance indication of said sale transaction record, to locate said selected merchandise and initiate delivery of said merchandise according to said selected delivery method instructions; and

accessing said sale transaction record and accepting payment for said selected merchandise items;

adding a customer to said database by issuing a customer identification number for

association with customer name, address and credit data;

displaying <u>customer information</u>; and

issuing a customer member card including said customer identification.

Freeform Search

Database:
US Pre-Grant Publication Full-Text Database
US Patents Full-Text Database
US OCR Full-Text Database
EPO Abstracts Database
JPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Term:
L4 and (customer near information)

Display: 50 **Documents in Display Format:** - **Starting with Number** 1

Generate: ○ Hit List ● Hit Count ○ Side by Side ○ Image

[Search] [Clear] [Interrupt]

Search History

DATE: Tuesday, May 11, 2004   Printable Copy   Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR			
L5	L4 and (customer near information)	16	L5
L4	L3 and module$	39	L4
L3	L2 and (product near information)	56	L3
L2	L1 and (warranty near information)	96	L2
L1	customer near service	18977	L1

END OF SEARCH HISTORY

First Hit

☑ | ▓▓▓ Generate Collection ▓▓▓ | | Print |

L7: Entry 4 of 12   File: PGPB   Mar 27, 2003

DOCUMENT-IDENTIFIER: US 20030061104 A1
TITLE: Internet based warranty and repair service

Abstract Paragraph:
Warranty support for purchased products is provided by an electronic warranty
administrator that maintains a plurality of databases. A first database identifies
customers, either individuals or corporate entities having warrantied products. A
second database identifies the manufacturers of those products. The warranty
administrator coordinates between the customer, the manufacturer and a service
provider to provide warranty repairs. Unlike conventional extended warranties
offered by third parties, the manufacturer remains in the repair process and
thereby gains valuable information about the long term satisfaction of the
customers. The warranty administrator also provides the manufacturer with a means
to contact the customer about other products, product recalls and affinity programs
thereby promoting brand loyalty.

Summary of Invention Paragraph:
[0012] Most sellers have recognized the power of the integrated network of
computers referred to as the Internet and most sellers are accessible to consumers
through their personal computers utilizing an electronic address, such as URL
(Uniform Resource Locator), on the World Wide Web. The seller's web site typically
contains new product information and may provide information regarding the repair
and servicing of products manufactured by that seller.

Summary of Invention Paragraph:
[0013] Generally, the seller's web site will be limited to its own products and is
of no value to a customer seeking warranty support for multiple products from
multiple sellers. U.S. Pat. No. 5,987,474, to Sandifer, that is incorporated by
reference in its entirety herein, discloses a technical database that stores
technical bulletins and other information, including warranty information,
necessary to maintain and repair components of complex equipment, such as aircraft.

Summary of Invention Paragraph:
[0017] It is an advantage of the invention that via the Internet, the warranty
administrator provides global customer service and promotes brand loyalty. Other
advantages to the purchaser include ease in maintaining warranty records with all
warranty records displayed on a personalized home page, ease to review and enhance
warranties, and ease in activating a warranty. A further advantage to the customer
is automatic notification of product alerts, warranty expirations and manufacturers
incentives. Still further advantages of the invention are the automatic
registration of a warranty at the point of sale or through the activation of a cash
card magnetically encoded with product information at an Automated Teller Machine
(ATM), on the Internet, or by phone, and the and the ability to acquire point-of-
sale information via the Internet.

Summary of Invention Paragraph:
[0020] In accordance with one aspect of the invention, there is provided a method
to provide customer warranty support and repair services via a computer network.
The method utilizes at least a first database accessible via the computer network

by a plurality of customers. At least one database includes a personalized portion for each one of the plurality of customers that requests warranty support. The personalized portion includes customer data necessary for a seller or manufacturer to provide warranty support of products sold by the seller. There is further at least a second database accessible to a plurality of manufacturers via the computer network that includes a personalized portion for each one of the plurality of manufacturers and contains <u>warranty information</u> regarding products sold by the manufacturer and/or a seller. In addition, a warranty administrator interfaces with and supports both the customers and the manufacturers.

<u>Summary of Invention Paragraph</u>:
[0029] In a further embodiment of this invention, the comprehensive household warranty would include a concierge service to pick up and drop off warrantied items in need of repair. The concierge <u>service could also provide a customer</u> with a similar item, available for purchase, while a warrantied item is being repaired. In yet another embodiment of this invention, the warranty administrator would conduct an inventory of a customer's home to determine the scope of coverage available.

<u>Detail Description Paragraph</u>:
[0086] Referring back to FIG. 12, the warranty administrator interfaces with the customer, the manufacturer and the service center to generate revenue 138. The manufacturer generates revenue by the sale of new products, the sale of up-grades and by the sale of extended warranties. Since the customer is directed to the manufacturer for these <u>services, the customer</u> is more likely to remain brand loyal for subsequent purchases. Revenue is generated for the service provider by being requested to provide warranty repairs. The warranty administrator manages payments from the manufacturer and from the customer removing the need for the service provider to conduct that function. The customer also benefits by having a record of warranties and an easy process to obtain warranty repairs.

<u>Detail Description Paragraph</u>:
[0089] Other services of the warranty administrator are coordinating shipping 144 of products both from the<u> customer to the service</u> provider and from the service provider back to the customer. The warranty administrator may identify a preferred shipper and agreed upon level of shipping service. Mailing labels and prepaid postage may also be sent electronically.

<u>Detail Description Paragraph</u>:
[0090] Other services provided by the warranty administrator may include consulting services, identifying warranty claim trends and product sales trends. This information could enable the manufacturer to maximize revenue by tailoring products and repair services to best meet those trends. The <u>warranty information</u> will also give the manufacturer a better view of the lifecycle 146 of its products. The warranty administrator may go beyond warranty repair and offer the purchaser insurance 148 for the product as well. Such insurance may be against theft, loss, damage, obsolescence or any other factor. Insurance may also be offered to manufacturers to defray the cost of providing warranty repairs. The insurance may be provided via the warranty administrator as captive insurance 150 or through a third party 152.

CLAIMS:

1. A method to provide customer warranty support and repair services via a computer network, comprising: at least a first database accessible via said computer network by a plurality of customers, said at least one database including a personalized portion for each one of said plurality of customers that requests warranty support, said personalized portion including customer data necessary for a manufacturer to provide warranty support of products sold by said manufacturer or manufacturer authorized seller; at least a second database accessible to a plurality of said manufacturers via said computer network, including a personalized portion for each

one of said plurality of manufacturers containing <u>warranty information</u> regarding products sold by said manufacturer or said manufacturer authorized seller; and a warranty administrator interfacing with and supporting both said plurality of customers and said plurality of manufacturers.

30. The method of claim 22 wherein when in-home repair is appropriate, said warranty administrator electronically coordinates between said <u>customer, a service</u> provider engineer and a distribution site in replacement parts are required.

31. The method of claim 22 wherein when in-service center repair is appropriate, said warranty administrator electronically coordinates between said <u>customer, said</u> <u>service</u> center and said shipper.

First Hit

☑ ▟▒▒▒ Generate Collection ▒▒▒▏ ▕ Print ▏

L7: Entry 7 of 12   File: PGPB   Apr 4, 2002

DOCUMENT-IDENTIFIER: US 20020040325 A1
TITLE: Method for managing product information and method for requesting repairs

Abstract Paragraph:
In a method for managing product information, warranty information corresponding to
a purchased product identification received from a customer-terminal used by a
customer is retrieved from a sales information management database managing the
purchased product identification identifying a product that the customer purchased
and the warranty information showing a warranty of the product and then a request
process corresponding to a request item indicated from the customer-terminal is
conducted.

Summary of Invention Paragraph:
[0002] The present invention generally relates to methods for managing production
information and methods for requesting a repair, and more particularly to a method
for managing production information, in which purchased product information
concerning the product, shop information concerning a shop and customer information
concerning a customer who purchased the product from the shop are managed so that
the customer is not required to maintain a warranty paper sheet of a product that
the customer purchased and which method can provide the product information of a
product that the shop sold and can also provide purchased product information of a
product that the customer purchased, and a method for requesting a repair, in which
a customer, who purchased a product, can request to repair the product by using a
cellular phone of the customer.

Summary of Invention Paragraph:
[0008] It is a general object of the present invention to provide methods for
managing product information and methods for requesting a repair, in which the
above-mentioned problems are eliminated.

Summary of Invention Paragraph:
[0009] A more specific object of the present invention is to provide a method for
managing product information in which purchased product information concerning a
product that a customer purchased and information concerning the customer and a
shop where the customer purchased the product can be centralized in a service
center supported by product makers, so that the customer is not required to
maintain warranty information of the purchased product, product information of
purchased product can be provided to the customer, and recall information can be
directly provided to the customer who purchased a product to be recalled.

Summary of Invention Paragraph:
[0011] The above objects of the present invention are achieved by a method for
managing product information, the method including the steps of: (a) retrieving
warranty information corresponding to the purchased product identification received
from a customer-terminal used by a customer, from a sales information management
database managing the purchased product identification identifying a product that
the customer purchased and the warranty information showing a warranty of the
product; (b) informing selective request items with the warranty information
retrieved in the step (a) to the customer-terminal; and (c) conducting a request
process corresponding to one of the selective request items, which is indicated

from the customer-terminal.

Summary of Invention Paragraph:
[0012] According to the present invention, in the method, the warranty information
is sent to the customer-terminal based on the purchased product identification
received from the customer-terminal. Therefore, the customer does not have to
maintain a warranty paper sheet of the purchased product by himself. In addition,
the selective request items are informed with the warranty information to the
customer-terminal. Therefore, the customer can request a desired process by simply
selecting one of the selective request items from the customer-terminal.

Summary of Invention Paragraph:
[0014] The warranty information can be information including a warranty period
while the product is guaranteed.

Summary of Invention Paragraph:
[0018] Alternatively, the above objects of the present invention are achieved by a
computer-readable recording medium having a program recorded thereon for causing a
computer to manage product information.

Summary of Invention Paragraph:
[0019] Also, the above objects of the present invention are achieved by an
apparatus for managing product information in accordance with the above method for
managing product information.

Summary of Invention Paragraph:
[0020] The other objects of the present invention are achieved by a method for
requesting to repair a purchased product through a customer-terminal, the method
including the steps of: displaying a product list listing purchased products at a
display unit of the customer-terminal; sending purchased product identification
identifying a product selected from the product list by a customer using the
customer-terminal, to a support center supporting the product; and requesting to
repair the product identified by the purchased product identification by informing
the support center one of selective request items, which is selected by the
customer, when warranty information showing warranty contents of the product and
the request items received from the support center.

Summary of Invention Paragraph:
[0021] According to the present invention, in the method, the customer who
purchased the product can send the purchased product identification by selecting
the product from the product list displayed at the customer-terminal. In addition,
the customer can refer to the received warranty information and also can request to
repair the purchased product by simply selecting a desired request item from the
selective request items transmitted from the support center. Therefore, the
customer is not required to maintain the warranty paper sheet of the purchased
product and the customer can easily request to repair the purchased product.

Brief Description of Drawings Paragraph:
[0025] FIG. 3 is a flowchart for explaining a process for managing customer
information of a product that a customer purchased, according to the embodiment of
the present invention;

Brief Description of Drawings Paragraph:
[0036] FIG. 14A is a diagram showing a product information DB according to the
embodiment of the present invention and FIG. 14B is a diagram showing a component
information DB according to the embodiment of the present invention;

Detail Description Paragraph:
[0040] A product information management system according to the embodiment of the
present invention is configured such as a system shown in FIG. 1. FIG. 1 is a

diagram showing the system configuration according to the embodiment of the present invention.

Detail Description Paragraph:
[0047] The CPU 11 controls the product information management system in accordance with programs stored in the memory unit 12 and also executes processes (described later) in the service center 100. The memory unit 12 includes a RAM and a ROM and stores the programs executed by the CPU 11, data necessary for processes and data obtained by the processes. Also, a part of an area of the memory unit 12 is used as a working area for the processes executed by the CPU 11.

Detail Description Paragraph:
[0049] The storage unit 16 includes a hard disk and stores files, databases and a product information program.

Detail Description Paragraph:
[0051] For example, a program of the process conducted in the service center 100 is installed into the service center 100 by loading a CD-ROM 20 into the CD-ROM driver 17. That is, when the CD-ROM 20 storing the program for managing product information is inserted in the CD-ROM driver 17, the CD-ROM driver 17 reads the program from the CD-ROM 20 and the program read from the CD-ROM 20 is installed into the storage unit 16 via the bus B. When the process for regenerating a trading board is executed, the CPU 11 executes the process in accordance with the program installed into the storage unit 16. It should be noted that a recording medium is not limited to the CD-ROM 20, but another computer-readable recording medium such as a magnetic disk, a magnetic tape, an optical disk, a magneto-optical disk, a semiconductor memory or the like may be used.

Detail Description Paragraph:
[0052] The product information management system of the service center 100 will now be described.

Detail Description Paragraph:
[0054] FIG. 3 is a flowchart for explaining a process for managing customer information of a product that a customer purchased, according to the embodiment of the present invention.

Detail Description Paragraph:
[0058] After the communication means 35 of the shop 30 transmits the purchase number and the e-mail address of the service center 100 in the step S102, the communication means 35 automatically receives the user information from the customer-cellular phone 40 and then transmits purchased product information concerning the product that the customer purchased, the purchase number, and the user information (step S105). When the user information received from the customer-cellular phone 40 does not include the e-mail address of the customer, the name, the address or the like, the communication means 35 of the shop 30 may connect to a communication service provided by a communication company to obtain the above information based on the customer telephone number. Alternatively, when the shop 30 confirms the customer the user registration, the shop 30 may obtain necessary information from the customer.

Detail Description Paragraph:
[0059] The service center 100 retrieves necessary product information from a product information DB 51 concerning products handled by the shop 30 based on the purchased product information received from the shop 30, the purchase number and a purchased date and then creates warranty information. Also, the service center 100 creates customer information including the warranty information (step S106). The created customer information is registered to customer information DB 52 in the storage unit 16 in FIG. 2.

Detail Description Paragraph:
[0060] For example, the service center 100 sends the given e-mail address notifying the customer of a message of "Thank you for purchasing our product", to the customer-cellular phone 40 by e-mail (step S107). When the service center 100 sends the message of "Thank you for purchasing our product", the service center 100 creates the purchased product information concerning the product that the customer purchased from the product information DB 51 and the customer information DB 52. Also, the service center 100 includes the purchased product information and purchase number in the message in accordance with a predetermined form. Hereinafter, a message is transmitted by e-mail.

Detail Description Paragraph:
[0061] In step S108, the customer receives the message of "Thank you for purchasing our product" from the service center 100 by the customer-cellular phone 40. The customer confirms that the user registration is completed. Also, the customer-cellular phone 40 creates a purchased product list by confirming that the purchase number received in the step S103 is identical based on the purchased product information and the purchase number.

Detail Description Paragraph:
[0068] Referring to FIG. 4, the purchased product list 60 shows that a manufacture number "RH-HF0002" of a product name "TV SET" purchased from a maker name "MAKER H" indicated by a number "01" is maintained by the purchase number "AAAAAA00000011" and "hhh@hhh.co.jp" is shown to contact a service person about the purchased product. Also, the purchased product list 60 shows that a manufacture number "AA-EDH01" of a product name "RADIO-CASSETTE" purchased from a maker name "MAKER F" indicated by a number "02" is maintained by the purchase number "BBBBBB00000011" and "fff@fff.co.jp" is shown to contact a service person about the purchased product. The above maker names and e-mail address are additionally provided by the service center 100 based on the product information DB 51.

Detail Description Paragraph:
[0077] 4. delete purchased product information.

Detail Description Paragraph:
[0087] In step S120, a service person of the local service center searches for the product information from the product information DB 51 and the repair request information for from repair request information DB 56 based on the distributed repair request sheet 71, and then contacts the customer to confirm a trouble situation. The service person telephones the customer to confirm details of repair and then visits the customer to repair the product if necessary.

Detail Description Paragraph:
[0090] When the replied message shows the request item number "3" (request to collect the product) in step S115, the service center 100 searches for the product information concerning the product that the customer requests to dispose for the product information DB 51 and then obtains all collection fees to calculate total collection fee in step S124 in FIG. 6. The service center 100 creates collection draft information including the calculated total collection fee based on the replied message and then registers to a collection draft information DB 58. Also, the service center 100 sends a confirmation message including the total collection fee for confirming whether or not the customer wants to dispose the product. For example, the confirmation message includes the following selective request items:

Detail Description Paragraph:
[0094] In step S1251, when the service center 100 receives the request item number selected by the customer, the service center 100 checks the replied message showing whether or not the customer wants to dispose the product. When the replied message shows that the customer wants to dispose, the process goes to step S1253. When the replied message shows that the customer does not dispose, the process goes to step

S1252.

Detail Description Paragraph:
[0100] In a case in which the replied message from the customer shows the number 4 (delete purchased product information) in the step S115, when the service center 100 receives a deletion request of the purchased product information from the customer, the service center 100 replies to the customer-cellular phone 40 by a deletion request accept message in step S128 in FIG. 6.

Detail Description Paragraph:
[0104] Referring to FIG. 7, in step S201, the customer connects to the service center 100 from the customer-cellular phone 40 and requests to display the purchased product information.

Detail Description Paragraph:
[0110] In FIG. 8, the repair request sheet 71 related to the purchase number "AAAAAA00000011" issued on "Oct. 09, 2000 " includes service center information 711 concerning the local service center to request a repair, request product information 713 concerning the product to be repaired, customer information 715 concerning the customer who wants to repair the product.

Detail Description Paragraph:
[0112] The request product information 713 includes a maker name, a manufacture number, a product name, a warranty period showing a warranty expiration date for the product that the customer purchased and information showing whether or not the product had been repaired before.

Detail Description Paragraph:
[0115] In FIG. 9, the repaired product shipping request sheet 72 related to the purchase number "AAAAAA0000011" issued on "Oct. 09, 2000 " includes shipping-to information 721 concerning an address where a repaired product is shipped, repaired product information 723 concerning the repaired product, shipping-from information 725 concerning the local service center shipping the repaired product.

Detail Description Paragraph:
[0117] The repaired product information 723 includes a product name that the customer requests to repair, a manufacture number and the like.

Detail Description Paragraph:
[0120] In FIG. 10, the collection request sheet 73 related to the purchase number "AAAAAA00000011" issued on "Oct. 09, 2000 " includes collection service information 731 concerning the local service center that collects the product to dispose, product information 733 concerning the product to collect, customer information 735 concerning the customer that requests to collect the product.

Detail Description Paragraph:
[0122] The product information 733 includes a maker name of the product that is collected from the customer, a manufacture number, a product name, collection fee informed to the customer in the step S124 and the like.

Detail Description Paragraph:
[0132] In step S137, the shop 30 confirms the repair situation information notified from the service center 100 and then contacts the customer to inform the repair situation. The process for confirming the repair situation is completed.

Detail Description Paragraph:
[0135] In FIG. 12, in step S141, the shop 30 requests the service center 100 to obtain information of products that the customer purchased and which replacement time is coming soon.

Detail Description Paragraph:
[0138] When it is determined that the shop 30 is registered, in step S144, the service center 100 searches for the customer information corresponding to the shop code for the customer information DB 52 and then retrieves sold product information related to products that the shop 30 sold. The service center 100 stores the retrieved sold product information to a shop sold product information DB 90.

Detail Description Paragraph:
[0139] In step S145, the service center 100 refers to a replacement time of each product information maintained in the product information DB 51 and extracts product information showing that replacement time is coming soon or has passed, based on a purchased date and the replacement time of the product from the shop sold product information DB 90. The service center 100 stores the extract product information as need-to-replace product information to a need-to-replace product information DB 91.

Detail Description Paragraph:
[0140] In step S146, the service center 100 sends the need-to-replace product information stored in the need-to-replace product information DB 91 to the shop 30.

Detail Description Paragraph:
[0141] In step S147, the shop 30 confirms the need-to-replace product information received from the service center 100.

Detail Description Paragraph:
[0142] In step S148, when the shop 30 requests the service center 100 to broadcast an advertisement based on the received need-to-replace product information, the shop 30 decides recommended products, discount rates and the like at the shop 30 and then creates advertisement contents. Subsequently, the shop 30 sends an advertisement broadcast request message requesting the service center 100 to broadcast the advertisement based on the created advertisement contents.

Detail Description Paragraph:
[0144] In step S150, the service center 100 searches for the customer information DB 52 by the purchase number of each need-to-replace product information maintained in the need-to-replace product information DB 91 and then broadcasts the advertisement contents of the advertisement file 92 to each customer based on the customer information retrieved from the customer information DB 52.

Detail Description Paragraph:
[0148] In FIG. 13, in step S301, the service center 100 retrieves lot information from a component information DB 512 based on component information of a defect component of the product shown by the repair history information DB 53. Subsequently, the service center 100 creates defect product information and stores to a defect product information DB 81. Also, the service center 100 creates a defect status based on the repair history information DB 53 and stores to the defect status DB 82.

Detail Description Paragraph:
[0149] In step S302, the service center 100 extracts recall product information from the lot information of the defect product information and then stores recall product information DB 83.

Detail Description Paragraph:
[0150] In step S303, based on the recall product information stored in the recall product information DB 83, the service center 100 searches for the customer information related to the customers who purchased product to be recalled, from the customer information DB 52. The customer information retrieved from the customer information DB 52 is stored in a customer-for-recall information DB 84.

Detail Description Paragraph:
[0153] In the recall process, since the repair history information, the product information, the component information, the customer information and the like are centralized in the service center 100, it is easy for the service center 100 to obtain the customer information of the customers whom information of recall and defect products is informed. Therefore, it is possible to effectively and properly notify each customer who needs to know the recall of the product that the customer purchased, of the recall status.

Detail Description Paragraph:
[0156] FIG. 14A is a diagram showing the product information DB 51 according to the embodiment of the present invention.

Detail Description Paragraph:
[0157] In FIG. 14A, the product information DB 51, for example, may be a database (DB) for products registered by makers that make a contract with the service center 100. Each product information maintained in product information DB 51 includes a record number, a manufacture number of a product, a product name, a warranty period showing a period in which the product is guaranteed, a replacement time showing a time to replace the product, a collection fee showing an expense to collect the product, lot information showing a lot by which the product is manufactured, a manufactured date of the product, a maker name that manufactured the product, a maker e-mail to contact the maker and the like.

Detail Description Paragraph:
[0165] The lot is associated with the lot information maintained in the product information DB 51. For example, when a defect of the component is disclosed, products corresponding to the lot information are retrieved from the product information DB 51.

Detail Description Paragraph:
[0167] In FIG. 15A, each customer information, which the service center 100 registered in the customer information DB 52, includes a record number, warranty information concerning a warranty, a cellular phone number of the customer, a phone e-mail of the customer, a name of the customer, an address of the customer and the like. The warranty information includes the purchase number including a shop number, a product name and a manufacture number for purchased product information, a device address, a purchased date when the customer purchased the product, a warranty period for guaranteeing the product and the like.

Detail Description Paragraph:
[0169] The cellular phone number is used to contact the customer or to charge for the product.

Detail Description Paragraph:
[0171] A date calculated by adding the warranty period managed in the product information DB 51 to the purchased date is defined as the warranty period in the warranty information. The warranty period is used when the customer requests to repair the product.

Detail Description Paragraph:
[0177] For example, in order to realize the above product information management system, the service center 100 is functionally structured as shown in FIG. 16.

Detail Description Paragraph:
[0179] In FIG. 16, the service center 100 includes a control part 101, a customer information managing part 102, a repair request processing part 103, a collection request processing part 104, a purchased product information deleting part 105, a purchased product list creating part 106, a repair status request processing part

107, a need-to-replace product information generating part 108, an advertisement processing part 109, a recall processing part 110, an input/output part 114, a display part 115 and a communication control part 118. In addition, the service center 100 includes the product information DB 51, the component information DB 512, the customer information DB 52, the repair history information DB 53, the shop information DB 54, the request history information DB 55, the repair request information DB 56, the collection request information DB 57, the collection draft information DB 58, the defect product information DB 81, the defect status DB 82, the recall product information DB 83, the customer-for-recall information DB 84, the shop sold product information DB 90, the need-to-replace product information DB 91 and the advertisement file 92 in the storage unit 16 in FIG. 2.

Detail Description Paragraph:
[0184] The customer information managing part 102 registers the customer information with the product information concerning a product based on the product information DB 51, when the customer purchases the product.

Detail Description Paragraph:
[0186] The collection request processing part 104 creates the collection draft information and stores to the collection draft information DB 58 based on the collection request message related to the purchased product from the customer-cellular phone 40. When the collection request processing part 104 receives a message indicating to collect from the customer-cellular phone 40, the collection request processing part 104 creates the collection request information based on the collection draft information stored in the collection draft information DB 58 and registers the collection request information to the collection request information DB 57. In addition, the collection request processing part 104 generates the collection request sheet 73 based on the collection request information maintained in the collection request information DB 57 and then distributes the generated collection request sheet 73 to a local service center. When the product is collected to dispose, the collection request processing part 104 deletes the customer information including the product information of the product that is collected, from the customer information DB 52.

Detail Description Paragraph:
[0187] The purchased product information deleting part 105 deletes the customer information including the product information from the customer information DB 52 in response to the deletion request message indicating to delete the purchased product information from the customer-cellular phone 40.

Detail Description Paragraph:
[0188] The purchased product list creating part 106 creates the purchased product list 60 based on the customer information including the product information of the product, which the customer purchased, from the customer information DB 52 in response to the request message requesting to obtain the purchased product list 60 from the customer-cellular phone 40. Then, the purchased product list creating part 106 sends the created purchased product list 60 to the customer by e-mail.

Detail Description Paragraph:
[0190] The need-to-replace product information generating part 108 retrieves the product information based on the customer information of the customer who purchased the product from the shop 30 which shop information is stored in the customer information DB52, in response to the message requesting to obtain information of need-to-replace products, which the shop 30 sold to customers and which replacement time is coming soon. The need-to-replace product information generating part 108 stores the retrieved product information as the shop sold product information to the shop sold product information DB 90. Subsequently, the need-to-replace product information generating part 108 retrieves the product information showing to be replaced, based on the replacement time of the product information maintained in the product information DB 51, and then stores the product information as the need-

to-replace <u>product information</u> to the need-to-replace <u>product information</u> DB 91. The need-to-replace <u>product information</u> generating part 108 informs the shop 30 the information related to the need-to-replace product based on the need-to-replace <u>product information</u>.

Detail Description Paragraph:
[0192] The recall processing part 110 creates the defect <u>product information</u> of the defect product based on the repair history information DB 53 and the component information DB 512, and then stores the defect <u>product information</u> to the defect <u>product information</u> DB 81. Also, the recall processing part 110 creates the defect status of the defect product and stores to the defect status DB 82. The recall processing part 110 specifies the product to recall based on the defect <u>product information</u> DB 81 and the <u>product information</u> DB 51, and then stores the <u>product information</u> related to the specified product as the recall <u>product information</u> to the recall <u>product information</u> DB 83. In addition, the recall processing part 110 extracts the information related to the customer who purchased the product to recall, based on the recall <u>product information</u> DB 83 and the customer information DB 52. The recall processing part 110 stores the extracted information as the customer-for-recall information DB 84. The recall processing part 110 informs each of all customers who need to know about the recall, based on the customer-for-recall information maintained in the customer-for-recall information DB 84.

Detail Description Paragraph:
[0194] Also, it is possible for the service center 100 to provide the <u>product information of products,</u> which the customer purchased, in response to the request message requesting to obtain the purchased product list 60, to the customer using the customer-cellular phone 40.

Detail Description Paragraph:
[0195] Furthermore, the service center 100 extracts the need-to-replace <u>product information</u> related to products, which the shop 30 sold and is needed to replace, in response to a request from the shop 30 and the need-to-replace <u>product information</u> is provided to the shop 30. Therefore, the shop 30 can effectively promote the replacement products based on the need-to-replace <u>product information</u>. In addition, the shop 30 can request the service center 100 to advertise based on the need-to-replace <u>product information</u>. Consequently, the shop 30 is not required to maintain the customer information by itself.

CLAIMS:

1. A method for managing <u>product information,</u> said method comprising the steps of: (a) retrieving <u>warranty information</u> corresponding to the purchased product identification received from a customer-terminal used by a customer, from a sales information management database managing the purchased product identification identifying a product that the customer purchased and the <u>warranty information</u> showing a warranty of the product; (b) informing selective request items with the <u>warranty information</u> retrieved in said step (a) to the customer-terminal; and (c) conducting a request process corresponding to one of the selective request items, which is indicated from the customer-terminal.

2. The method as claimed in claim 1, wherein said step (c) comprises the step of deleting the purchased product identification and the <u>warranty information of a product</u> identified by the purchased product identification, which purchased product identification is received from the customer-terminal, from the sales information management database when one of the selective request items, which is indicated from the customer-terminal, shows a request to delete information related to a product that the customer purchased.

5. The method as claimed in claim 3, wherein said step (b) comprises the steps of: checking whether or not a same repair is conducted within a predetermined period,

by searching for the repair history information from said repair history database based on the purchased product identification received from the customer; and informing said <u>warranty information</u> and said request items with a check result to the customer.

9. The method as claimed in claim 1, further comprising the step of (n) informing the purchased product identification to the customer-terminal of the customer based on the customer information when the purchased <u>product information,</u> in which shop identification information identifying a shop is provided, and the customer information concerning the customer are received through a shop-terminal which the shop uses.

10. The method as claimed in claim 1, further comprising the steps of: (o) maintaining the purchased product identification including shop identification identifying a shop and the customer information by corresponding to the purchased product identification in said sales information management database; and (p) creating a product list listing <u>product information</u> of purchased product of the customer based on the purchased product identification corresponding to the customer information retrieved from the sales information management database when the customer information is received, and sending the product list to the customer-terminal.

11. The method as claimed in claim 10, further comprising the steps of: (q) obtaining the purchased product identification of products which the shop sold, by searching for the shop identification of the shop from said sales information management database when a request message requesting to obtain information related to product, which are sold by the shop and are consumed, is received from the shop-terminal of the shop; (r) creating need-to-replace<u> product information of products</u> that are identified by the purchased product identification obtained in the step (q) and are needed to replace, by referring to a table maintaining a replacement time of each product; and (s) notifying the need-to-replace <u>product information</u> to the shop-terminal.

13. A computer-readable recording medium having a program recorded thereon for causing a computer to manage <u>product information,</u> said program comprising the codes of: (a) retrieving <u>warranty information</u> corresponding to the purchased product identification received from a customer-terminal used by a customer, from a sales information management database managing the purchased product identification identifying a product that the customer purchased and the <u>warranty information</u> showing a warranty of the product; (b) informing selective request items with the <u>warranty information</u> retrieved by said code (a) to the customer-terminal; and (c) conducting a request process corresponding to one of the selective request items, which is indicated from the customer-terminal.

15. An apparatus for managing <u>product information,</u> said apparatus comprising: a sales information management database managing the purchased product identification identifying a product that the customer purchased and the <u>warranty information</u> showing a warranty of the product; a <u>warranty information</u> retrieving part retrieving <u>warranty information</u> corresponding to the purchased product identification received from a customer-terminal used by a customer, from said sales information management database; a request item informing part informing selective request items with the <u>warranty information</u> retrieved by said <u>warranty information</u> retrieving part to the customer-terminal; and a request process conducting part conducting a request process corresponding to one of the selective request items, which is indicated from the customer-terminal.

17. A method for requesting to repair a purchased product through a customer-terminal, said method comprising the steps of: displaying a product list listing purchased products at a display unit of the customer-terminal; sending purchased product identification identifying a product selected from said product list by a

customer using the customer-terminal, to a support center supporting the product; and requesting to repair the product identified by the purchased product identification by informing the support center one of selective request items, which is selected by the customer, when <u>warranty information</u> showing warranty contents of the product and the request items are received from the support center.

18. A computer-readable recording medium having a program recorded thereon for causing a computer to request to repair a purchased product through a customer-terminal, said computer-readable recording medium comprising the codes of: (v) displaying a product list listing purchased products at a display unit of the customer-terminal; (w) sending purchased product identification identifying a product selected from said product list by a customer using the customer-terminal, to a support center supporting the product; and (x) requesting to repair the product identified by the purchased product identification by informing the support center one of selective request items, which is selected by the customer, when <u>warranty information</u> showing warranty contents of the product and the request items are received from the support center.

19. An apparatus for requesting to repair a purchased product through a customer-terminal, said apparatus comprising: a displaying part displaying a product list listing purchased products at a display unit of the customer-terminal; a sending part sending purchased product identification identifying a product selected from said product list by a customer using the customer-terminal, to a support center supporting the product; and a repair requesting part requesting to repair the product identified by the purchased product identification by informing the support center one of selective request items, which is selected by the customer, when <u>warranty information</u> showing warranty contents of the product and the request items are received from the support center.

☐ �▨▨▨▨ Generate Collection ▨▨▨▨ | Print |

L7: Entry 9 of 12   File: USPT   Apr 27, 2004

DOCUMENT-IDENTIFIER: US 6728685 B1
TITLE: Communication schema of online reporting system and method related to online
orders for consumer products having specific configurations

Brief Summary Text (4):
On-line shopping is quickly becoming the preferred means for obtaining consumer
products and services. More consumers, for example, are now using the Internet to
browse, comparison shop and order products on-line. Online shopping systems have
made product information, including pricing and availability, readily available to
consumers and have facilitated the location and purchasing of desired products at
lower cost and with added convenience.

Detailed Description Text (29):
A consumer may also request for a lead on a dealer that may have vehicles he/she is
interested in test driving, for example. The BuyerConnection.com web site routes
the consumer lead request (04) to workflow manager 622, which is sent to customer
service representatives and to dealerships 624. The dealerships may then contact
the consumer directly either by postal mail, electronic mail, or telephone.

Detailed Description Text (32):
A report process 666 is operable to access a report data warehouse 668 and generate
report data messages (R1 and R2) related to the retail orders and tagged orders,
respectively, for reporting purposes. The report data are routed to
BuyerConnection.com web site 602 via web server 605. Dealer lead messages (R3) are
generated through a customer request to have a dealer contact the customer about a
certain vehicle that the customer has selected online.

Detailed Description Text (66):
Referring to FIG. 13, an embodiment of the format of a search response 1020 is
specified by search results tag 1022. Search results tag 1022 include an errors tag
1024 and a vehicles tag 1026. Errors tag 1024 is used to return information if the
search is unsuccessful. Vehicles tag 1026 contains data on one or more vehicle 1027
that fits the search criteria. An identification tag 1028 contains a unique VIN
and/or stock number that is used to identify the vehicle. A status tag 1029
contains the status of the vehicle, including condition, process tag, days in
inventory, and description. A dealer code tag 1030 contains an identifier that
specifies the dealership that has the vehicle in inventory. Configured model tag
1031 is used to specify detailed information of the vehicle, including price
information (type, value, currency) 1032, make (code, description) 1033, model
(code, name, year, trim, description) 1034, engine specifications (code,
displacement, number of cylinders, fuel type) 1035, transmission specifications
(code, type, speed, description) 1036, exterior paint color (code, description)
1037, wheel specifications (code, diameter, description) 1038, tire specifications
(code, manufacturer, description) 1039, seat trim color 1040, interior trim
materials 1041, audio system specifications (code, radio, cassette, CD,
description) 1042, two-wheel or four-wheel drive 1043, cab style 1044, body style
1045, rear axle ratio 1046, payload package (extra payload or towing capacity)
1047, wheel base length 1048, roof color 1049, number of doors 1050, accent color
(such as exterior paint color for the bottom half of the vehicle) 1051, spare tire
specification 1052, preferred equipment package (PEP) 1053, option package 1054,

stand alone options 1055, and any error message 1056. Lastly, <u>warranty information</u> is contained in a warranty parameter 1057.

Detailed Description Text (68):
Contact 1072 contains <u>customer contact</u> information, such as a unique customer identifier 1073, name 1074, address 1075, email address 1076, daytime phone number 1077, evening phone number 1078, fax number 1079, a field 1080 describing the best method to <u>contact the customer,</u> and any other comments 1081.

Detailed Description Text (74):
Referring to FIG. 16, an overall data flow diagram for the order process according to an embodiment of the present invention is shown. As described above, the order process allows an Internet customer to submit a lead to a dealership or purchase vehicle from dealer inventory, vehicles in-transit, or orders scheduled to be built. Order process 644 receives an order number from a vehicle order application 1150, which typically resides at a web site, portal or is part of the portal. Vehicle order application 1150 also sends initial order information, initial credit card authorization information to workflow manager 622. Order process 644 places the order into the enterprise ordering system 1158, which resides on the enterprise mainframes. Enterprise ordering system 1158 returns an item number and other order validation information to order process 644. Enterprise ordering system 1158 also sends the item number and order validation information to a dealer 1160 that either has the selected vehicle or will take delivery of the vehicle to the consumer. The item number, order number and order validation information are also provided to a <u>customer service</u> process 1164, which is operable to communicate with the customer 1162 via several modes of communication. Dealer 1160 may also initiate change to an order by sending the change information to enterprise ordering system 1158 as well as to workflow manager 622. The order change information is provided to a reporting data collector 1154. Workflow manager 622 also provides order status information to status module 1156.

Detailed Description Text (76):
In response to receiving the CONCEPS edit results, order process 644 sends an order confirmation message 1218 to B2B server 640. Order process 644 may also request status action 1219 from a status action lookup process 662, which returns a status action reply 1220. B2B server 640 forwards the order confirmation message 1221 to workflow manager 622. Prospect/buyer database 630 is then updated with initial order status by workflow manager 622. Workflow manager 622 sends information on the new order to dealer 624. Workflow manager 622 also sends clean/dirty status 1224 to customer assistance center/business assistance center, and <u>customer service</u> representatives (CAC/BAC CSR) 632. Back at the enterprise mainframe, order processing re-edit process 652 updates order bank 656, and updates dealer order information stored in dealer order database 650. Dealer order data 1227 is forwarded to a dealer order process 654, which sends a dealer order receipt acknowledgement report 1228 to dealer 624. <u>Customer service</u> representatives 632 is provided with follow-up and status updates 1229. Workflow manager 622 provides dealer 624 with periodic status updates. Dealer 624 sends a credit card payment request 1230 to workflow manager 622, which forwards the request 1231 to credit card processor 1232.

Detailed Description Text (79):
Periodically or when necessary, workflow manager 622 and dealer 624 communicate to inform one another of inventory availability follow-up an status updates 1314. Prospect/buyer database 630 is updated by order status updates 1315 from workflow manager 622. Workflow manager 622, at the request of dealer 624 or consumer 601, may also send request messages 1316 to permanently tag or untag a vehicle in the database. A permanent tag is typically submitted by a dealer through the workflow manager to indicate that the transaction is completed on a vehicle that had been previously temporarily tagged. A permanent tag message deletes the vehicle from the inventory database. An untag message is used to cancel a temporary tag on a

vehicle. The untag message allows the specified vehicle to again be searched pursuant to subsequent search requests. An untag message may be submitted by a dealer, the CAC/BAC, CSR, consumer, or via locate administrative process that searches for expired temporary tags. A temporary tag automatically expires after a predetermined period, such as 30 days, for example. Customer service representatives 632 also updates or is updated by dealer 624 regarding inventory availability follow-up and status updates 1317. Dealer 624 also sends a credit card payment request 1318 to workflow manager 622, which sends the request 1319 to credit card processor 1220.

Detailed Description Text (80):
FIG. 19 is a more detailed block and flow diagram of an embodiment of customer lead processing according to the teachings of the present invention. Consumer 601 requests 1330, from web site 602, information on a dealership, or a lead on the dealership. Vehicle configuration information 1331 is then retrieved from configuration/pricing database 608 to web site 602. Web site 602 also stores or retrieves customer profile data 1332 to or from common membership database 672. Web site 602 sends a request 1333 for a lead number to a lead number generator 1334. A lead number 1335 is generated and routed to web site 602. A lead confirmation 1336 is sent to consumer 601 to provide the information on the selected dealer. A lead message 1337 is then sent to workflow manager 622, which stores the dealer lead information 1338 associated with the consumer in prospect/buyer database 630. The lead information 1339 is also provided to dealer 624, so that the dealer may follow-up on the lead with the consumer. Dealer 624 may report to workflow manager 622 with lead follow-up and status update information 1340, when dealer 624 follows up 1341 with consumer 601. Lead status update information 1342 is provided to prospect/buyer database 630. Dealer 624 also provides customer service representatives 632 lead follow-up and status update information 1343.

Detailed Description Text (81):
An unscheduled order may be cancelled as shown in the block and data flow diagram shown in FIG. 20. As opposed to a scheduled order, an unscheduled order is one that is initiated by the consumer and not previously planned or scheduled by the enterprise. Consumer 601 sends a cancel request 1360 to dealer 624. Consumer 601 may also convey his or her desire to cancel the order via some communication 1361 to customer service representatives 632, which conveys the cancel request 1362 to dealer 624. Dealer 624 then submits a cancel message 1363 to CONCEPS 648. In response, CONCEPS 648 updates order bank 656 with a cancel message 1364. Dealer 624 further sends a status update 1365 to workflow manager 622, which forwards a status update 1366 to prospect/buyer database 630.

Detailed Description Text (82):
A scheduled order may be cancelled as shown in the block and data flow diagram shown in FIG. 21. Consumer 601 communicates his/her desire to customer service representatives 632 to cancel the order 1380. In response, customer service representatives 632 communicate the cancel request to dealer 624 and also send a cancel request 1382 to a mech. spec. process 1382. Mech. spec. process 1382 sends a cancel message 1384 to a MP&L process 1385. MP&L process 1385 in turn sends status updates 1386 and 1388 to order bank 656 and enterprise vehicle information process 660. Dealer 624 further sends a status update 1389 to workflow manager 622, which forwards a status update 1390 to prospect/buyer database 630.

Detailed Description Text (83):
The consumer may also change the specification of the vehicle which he/she has ordered. A block and data flow diagram of an embodiment of the specification change process is shown in FIG. 22. Consumer 601 communicates 1400 a specification change request to dealer 624. Consumer 601 may also convey his or her desire to cancel the order via some communication 1401 to customer service representatives 632, which convey the specification change request 1402 to dealer 624. Dealer 624 then submits a specification change message 1403 to CONCEPS 648. In response, CONCEPS 648

updates order bank 656 with information on the specification changes 1404. Dealer 624 further sends a status update 1405 to workflow manager 622, which forwards a status update 1406 to prospect/buyer database 630.

Detailed Description Text (90):
As shown in FIG. 26, the retail order message includes a top level tag, RetailOrder 1640, and four tags, OrderInformation 1641, Contact 1642, CreditCardAuthNum 1643, and RetailConfiguration 1644, at the next level. As described above, OrderInformation tag 1641 is used to include data related to the order, Contact tag 1642 is used to include data related to the contact or the purchaser, CreditCardAuthNum 1643 is used to include the credit card authorization number, and RetailConfiguration tag 1644 is used to include data related to the vehicle configuration of the ordered vehicles. The order information parameters include order source identifier 1648, session identifier 1649, order number 1650, total price of the order 1651, deposit amount 1652, order date 1653, order time 1654, dealer identification code 1655, and payment method 1656. The contact parameters include information on the customer, such as a customer identifier 1657, the name of the customer 1658, address 1659, email address 1660, daytime phone number 1661, facsimile number 1662, the best way to contact the customer 1664, and a field 1665 for including comments related to the customer.

Detailed Description Text (94):
The lead information parameters include a lead number 1725, a lead source identifier 1726, session identifier of the online session with the customer 1727, lead date 1728, lead time 1729, time frame for contacting the customer 1730, and payment method 1731. The contact parameters include information on the customer, such as a customer identifier 1732, the name of the customer 1733, address 1734, email address 1735, daytime phone number 1736, evening phone number 1737, facsimile number 1738, the best way to contact the customer 1739, and a field 1740 for including comments related to the customer.

CLAIMS:

10. The communication schema, as set forth in claim 9, wherein the order information further comprises a product type of a product selected by the customer.

20. The communication schema, as set forth in claim 19, wherein the lead information further comprises a product type of a product selected by the customer.

Print Request Result(s)

Printer Name: cpk2_4c32_gbfrptr
Printer Location: cpk2__4c32
Number of Copies Printed : 1

- US20030061104: Ok
- US20020040325: Ok
- US006728685: Ok
- US006654726: Ok
- US006314089: Ok

OK   Back to List

First Hit   Fwd Refs

☑ ▨▨▨▨ Generate Collection ▨▨▨▨ | Print |

L5: Entry 15 of 16   File: USPT   Dec 4, 2001 ·

DOCUMENT-IDENTIFIER: US 6327363 B1
TITLE: Method and system for automated <u>customer services</u>

Abstract Text (1):
A system and method for accepting customer calls for product related services and
directing these calls to an appropriate <u>customer service</u> center. The system
contains a <u>customer service</u> network and a customer transaction database for storing
a plurality of <u>product information</u> and vendor/customer data. A transaction
processor is arranged to process calls received through the network and to route
the calls to an appropriate care center for a particular customer in accordance
with data associated with a customer-entered personal identification number
provided to the customer at the time of purchase. The services are provided on the
basis of a pre-paid account, which is debited after a service agent answers the
customer call based on signaling generated at the call center.

Brief Summary Text (3):
The present invention relates to a system for providing <u>customer services</u> using a
network-based database and more specifically to an application that collects and
stores, for example, customer, vendor and product data, accepts service calls from
customers, routes the calls to an appropriate <u>customer service</u> center, and triggers
a debiting of a customer account.

Brief Summary Text (7):
In a typical scenario, customer support requires the customer to provide an
assortment of information, such as the model number, the product type, the date of
purchase, the sales location, and other information pertaining to a particular
sales transaction, in order to obtain product support. For example, vendors
commonly require a customer to register their product in order to receive customer
support (e.g., by way of a mail-in product registration card, a time-consuming
phone call to the vendor, or a post-purchase, online registration process). This
process requires considerable time and effort on the part of both the customer and
the vendor and can lead to customer frustration, limiting the number of customers
who actually register their products. As a result, valuable customer and <u>product
information</u> is never captured by the vendor, and customer dissatisfaction with the
product and or vendor may be increased.

Brief Summary Text (8):
Typically, these customer support services are provided through a toll-free
telephone number that enables a customer to reach a customer support agent at a
call center. For example, a vendor that sells a software product may provide a 1-
800 number with the product for their customers to call in order to obtain support
for the software product. When the customer calls the 1-800 number, the call is
connected to a technical support agent at a call center. Because many customer's
fail to properly register their product purchase with the vendor, the support agent
often must verbally collect <u>information from the customer</u> before having sufficient
information to provide satisfactory support. This process may further irritate a
customer already frustrated by the need·for support in the first place. Providing
customer support services is also typically a great expense for a vendor. The
vendor must cover the cost of the customer support agent's time and the cost of the
toll-free call. In addition, considerable time and resources are required to

collect and manage current information about the product and the customer. Often, there is no tracking of the time spent serving the customer or of other call characteristics that would be useful in managing the customer support process. It would be advantageous for the vendor limit the amount of free support it provides or to provide customer support on a paid basis. Consequently, improvements in customer support methods and systems can help improve customer relations and reduce the costs of customer service.

Brief Summary Text (9):
Prior art systems and methods for vending and delivering customer service and support depend primarily on having the customer call directly into a product vendor's service call center. The integration of such customer service calls with appropriate service call centers, however, has not been addressed. Moreover, the process of automatically routing customer service calls to an appropriate service center based on product type and model number has been, until the present invention, an unpracticed method of delivering customer support. Ideally, a customer could dial into a toll free customer support network and reach a qualified support specialist who is familiar with the specific product purchased by the customer.

Brief Summary Text (10):
Consequently, need exists for a universal application to maintain an information database used for integration of customer services with the product registration and the delivery of customer support services. Both vendors and customers would derive tremendous benefits from such an application. When purchasing a product, it would be desirable for a customer to acquire a credit/debit card entitling them to obtain a specified amount of product support from the vendor, so that customer, product, and vendor information could be associated with the card at or prior to the actual purchase. Likewise, it would be advantageous for a vendor to manage customer support costs and improve customer service business processes through enhanced information gathering and database capabilities.

Brief Summary Text (12):
A system and method in accordance with the present invention permit product and service vendors to control access to call center services through an intelligent network, preferably employing an automated interactive voice response application. The present invention can, for example, be utilized to collect warranty and product registration information, to measure entitlement to support services, and to collect and process customer, product, and vendor information. In one embodiment, the present invention provides a vehicle for vendors (i.e., product and/or service providers) to charge and receive revenue for their support services, which traditionally have been a necessary expense of doing business. Furthermore, the services provided in accordance with the present invention can involve services other than customer support services. Additionally or alternately, other services may be provided within the scope of the present invention, including without limitation news and sports update lines, financial services, and celebrity chat lines.

Brief Summary Text (13):
An advantage of the present invention is that it supports a network-based program that gives a product vendor the opportunity to improve the quantity and efficiency of services related to merchandise purchased by the customer. In this regard, a network-based database provides access to information through applications responsible for maintaining this database. The database provides controlled access to customer service centers and, for example, to help desk environments corresponding to a specific product brand and/or model.

Brief Summary Text (14):
Another advantage of the present invention is an automated interactive voice application for acquiring information from a customer call by using a set of

predefined recorded instructions and options from a network-based database, thereby
allowing the customer to customize the services received.

Brief Summary Text (15):
Another advantage of the present invention is a customer transaction database for
storing a plurality of product, vendor and customer data, where the customer
transaction database is communicably linked to a customer service network via a
communications link.

Brief Summary Text (18):
Disclosed, in one embodiment, is a system for accepting customer calls for product
related services and directing these calls to an appropriate customer service
center. The system contains a customer service network and a customer transaction
database for storing a product information and vendor/customer data. The customer
transaction database can be communicably linked to a customer service network via a
communications link. A transaction processor is arranged to process calls received
through the network and to determine the appropriate service center for a
particular customer from the entry of a personal identification number (PIN)
provided to the customer at the time of purchase. The PIN may be used as a key to
access data in the customer transaction database.

Brief Summary Text (20):
To achieve the foregoing and other advantages, and in accordance with the purposes
of the present invention, as embodied and broadly described herein, the system of
this invention may comprise a customer service network; a customer transaction
database coupled to the customer service network for storing an account record; a
transaction processor coupled to the customer transaction database and configured
to process a customer call received through the customer service network and to
route the customer call to an appropriate service center in accordance with
criteria relating to data recorded in said account record; an agent station located
at an appropriate service center and coupled to the transaction processor to
receive the customer call; and a triggering signal to trigger a debit in said
account record after an answer is detected at said agent station.

Drawing Description Text (3):
FIG. 2 is a high-level illustration of a system for providing automated customer
services in accordance with the present invention.

Drawing Description Text (4):
FIG. 3 is a detailed illustration of a system for providing automated customer
services in accordance with the present invention.

Drawing Description Text (7):
FIG. 6 illustrates exemplary components of the customer service center of FIG. 3.

Drawing Description Text (8):
FIGS. 7A, 7B, 7C, 7D, and 7E depict a flowchart of a method for providing automated
customer services in accordance with the present invention.

Drawing Description Text (9):
FIGS. 8A through 8I depict a detailed flowchart of a method for providing automated
customer services in accordance with the present invention.

Detailed Description Text (4):
The I/O section 102 is connected to keyboard 105, display unit 106, disk storage
unit 109, and disk drive unit 107. Generally, in contemporary systems, the disk
drive unit 107 is a CD-ROM driver unit capable of reading a CD-ROM medium 108,
which typically contains programs 110 and data. Computer program products
containing mechanisms to effectuate the apparatus and methods in accordance with
the present invention may reside in the memory section 104, on a disk storage unit

109, or on the CD-ROM medium 108 of such a system. Alternatively, disk drive unit 107 may be replaced by a floppy drive unit, a tape drive unit, or other storage medium drive unit. Examples of such systems include SPARC systems offered by Sun Microsystems, Inc., personal computers offered by IBM Corporation and by other manufacturers of IBM-compatible personal computers, and other systems running a UNIX-based or other operating system. In accordance with the present invention, software program modules may be executed by CPU 103, and pre-paid card account data elements and other data may be stored on disk storage unit 109, disk drive unit 107 or other storage medium drive units coupled to the system.

Detailed Description Text (5):
FIG. 2 depicts a customer service network 204 having a transaction processor 209 in accordance with the present invention. Transaction platform 209 comprises a service card platform capable of processing incoming calls in accordance with information provided by the caller and/or data stored in customer transaction database 210. Service card 200 is preferably included with a product, although it may be purchased separately. Service cards may be made available to customers of participating vendors that allow customers to obtain vendor support of purchased goods. In an exemplary embodiment, a unique Personal Identification Number (PIN), or a customer identification number, is assigned to a customer service account. The PIN is preferably recorded on the service card 200 along with a toll-free access number, which may be common for several or all pre-paid accounts. Recording may include without limitation printed text, bar codes, other visual markings, or magnetic or optical encoding. Generally, a customer calls the access number to receive service from a vendor. The call is routed through a transaction processor 209. The customer's PIN is provided to transaction processor 209, and the call is routed to an appropriate customer service agent in accordance with data read from the customer transaction database 210 (such as product type, model, vendor ID, etc.) and/or provided by the caller. The pre-paid card account is thereafter debited for the call in the appropriate debiting mode (e.g., per incident, per minute, etc.).

Detailed Description Text (6):
Service card 200 is associated with a pre-paid account configured on a customer transaction database 210. An account may include customer, vendor, and product information, such as a customer ID, vendor ID, product registration number, and product type. The pre-paid account preferably entitles a customer to a limited amount of customer service. A customer's service entitlement may be provided in various ways: first, a caller may be allowed to place a limited amount of service calls or incidents. Accordingly, limits may be placed on the number of service incidents, the duration of service calls, the total amount of service per unit of time, and the time period in which these incidents must be used (e.g., a card may be valid for one year from date of purchase or for 90 days from the date of first use). A second type of entitlement involves an unlimited number of calls not exceeding a predetermined amount of time in aggregate. If the balance of pre-paid service is substantially depleted, the customer is preferably given the opportunity to "recharge" the pre-paid balance (e.g., such as by providing a credit card number) to add additional service entitlement. Other limitations may also be applied to the amount of service available.

Detailed Description Text (7):
In an exemplary embodiment, a customer requiring service calls a service access telephone number, preferably a toll-free number displayed on the service card 200 itself. The customer's call originates at telephone 202 and accesses switched network 204 via Local Exchange Character (LEC) link 206, a dedicated access line, or any other common means. The call is received by Interactive Voice Recognition (IVR) application 212, which assists transaction processor 209 with automated interaction with callers. In addition to comprising its own database 210, transaction processor 209 is also coupled to auxiliary services and databases 208 to access to other network capabilities, such as operator assistance, automated

routing, billing, and services provided by a service card vendor. For example, a product type read from the customer transaction database may be used to search an auxiliary database for selecting a specialized customer service center to provides support for the specific product. It should be understood that such routing information can also be recorded in the customer transaction database and/or be associated with other customer-related data, such as the PIN.

Detailed Description Text (8):
After some initial processing, the customer's service call is forwarded to an appropriate customer service agent. Such agents are preferably located at a Customer Service Center (CSC) such as 214, 216 or 218. A type of CSC is a customer support center that provide customers with, for example, technical support relating to a purchased product. A customer service agent preferably receives a customer service call through a Computer/Telephony Integration (CTI) application such 220, 222 or 224. A CTI application integrates telephony functions with a computer application, which for example allows a service agent to look up information about the customer or product during the call.

Detailed Description Text (9):
FIG. 3 depicts a more detailed representation of a service card system in accordance with the present invention, wherein the transaction processor 209 of FIG. 2 comprises service card Intelligent Network Overlay (INO) 304. A customer service call is originated in block 300. A customer call is typically initiated when a caller dials a special access number, preferably a toll-free number. A call may access switched network 302 via an LEC, a dedicated access line, or any other common means. Such a call is received into switched network 302, which preferably comprises, Data Access Point (DAP) 308, INO Bridging Switch 306 and Intelligent Services Network (ISN) Bridging Switch 324. Switches 306 and 324 are preferably linked to DAP 308 via communication links 301 and 303 employing a transactional telecommunications protocol, such as Application Data Field (ADF). As with other telecommunications links described herein, alternate protocols are also contemplated within the scope of this invention, including Signaling System 7 (SS7). Furthermore, switches 306 and 324 are themselves preferably linked by an Inter-Machine Truck (IMT) 305.

Detailed Description Text (13):
FIG. 4 depicts a more detailed block diagram of the Service Card INO 304 of FIG. 3. Service Card INO 304 preferably comprises a combined Service Switching and Service Control Point (SSCP) 400, Intelligent Peripheral (IP) 402, Service Data Point (SDP) 404, and Service Management System (SMAS) 406. The SSCP 400 includes Interactive Voice Response (IVR) applications 408 to receive a customer call from the INO Bridging Switch (306 of FIG. 3) for initial processing. The IVR applications 408 act as gateways for the calls and receive routing instructions from a database coupled to SDP 404. The IVR applications 408 have the ability to interact with a database coupled to SDP 404 as well as possibly a vendor's database (such as shown at 326 in FIG. 3) through a host connect application. The IVR applications 408 can allow vendors to change IVR recorded messages from a remote location. In one embodiment, the IVR applications 408 are programmed to handle a plurality of vendors at the same time, providing a cost effective solution to multiple customer service calls.

Detailed Description Text (14):
An exemplary SSCP is based on an Ericsson ACE-10 switch with built-in intelligent call processing and IVR processing modules. The IP 402 is a Network Audio Server or Voice Response Unit (VRU) that interacts with callers, providing voice prompts and accepting call input via Dual-Tone Multi-Frequency (DTMF) signals (e.g., telephone touch tones) or speech recognition. The resources of IP 402 are driven by the IVR applications 408 that execute on SSCP 400. Thus, the SSCP has both voice trunks and data links, shown generally at 410, to IP 402. Voice trunks are used to connect callers with voice ports on IP 402, and data links are used to send IVR application

commands and audio messages to the IP and to communicate caller input as DTMF
signals or speech recognition data from IP 402 to SSCP 400.

Detailed Description Text (18):
The IP 402 preferably greets the caller, determines the proper language to be used
during the call, and prompts the caller to enter a PIN, which is usually printed on
the card. The PIN is used to authenticate the caller and to access the caller's
pre-paid account on SDP 404. The PIN also allows IVR applications 408 to track the
number of calls made by the customer and the type of services provided to the
customer. The PIN is collected by IP 402 and provided to SSCP 400, which retrieves
the pre-paid account from the SDP 404 and authenticates the caller. If the PIN is
invalid or expired, an appropriate announcement is made and the call is terminated.
If the card's pre-paid balance is depleted and the customer cannot or does not
which to recharge the pre-paid account, an appropriate announcement is played and
the call is terminated. If the account is rechargeable (and the customer wishes to
replenish the pre-paid account), processing can transfer to ISN 310 for operator
assistance. Alternately, the service card INO 304 may recharge the balance in an
automated manner, such as by using the caller's DTMF capability or by voice
recognition.

Detailed Description Text (21):
When a service card is supplied with a vendor's product, an associated pre-paid
account is provisioned on the SDP 404. The account may be provisioned with a set
amount of customer service in terms of a number of calls, a number of call minutes,
or some other metric. The service card may also be provisioned with no entitlement,
if the product vendor so desires, requiring the customer to pay for initial
service. Other information may also be included in the account, as the product
vendor desires. Such information may be completely or selectively available to a
service agent from the account database when the customer calls in for customer
service. In an exemplary embodiment, customer information can be presented to a
customer service agent at his or her workstation before the agent answers the
customer's call. The information can include without limitation warranty
information, recall information, customer identity, vendor location, and rebate
information. Accordingly, the customer need not provide this information over the
phone before receiving service.

Detailed Description Text (24):
FIG. 5 depicts a more detailed block diagram of the ISN 310 of FIG. 3. The ISN 310
preferably includes ISN ACD 400, customer service console 402, ISN Application
Processor (INAP) 404, operator service console 406, TCAP gateway 408, Network
Information Distribution Services (NIDS) data server 410, and Validation Gateway
412. The ISN 310 provides, in part, operator-assisted or automated recharging of a
customer's account balance. The ISN 310 has a Ethernet data link 330 to the service
card INO 304 via TCAP messaging over TCP/IP. The system and method for providing
operator services for pre-paid cards are described and claimed in pending U.S.
patent application Ser. No. 08/956,232, specifically incorporated herein by
reference for all that it discloses and teaches.

Detailed Description Text (25):
FIG. 6 depicts a more detailed block diagram of the Customer Service Center 316 of
FIG. 3, which includes Ethernet LAN 608, ACD 600, control server 602, and service
agent stations 604. Ethernet link 334 is part of Ethernet LAN 608, which also
includes router 610. When service card INO 304 of FIG. 3 routes the call to ACD 600
through STP 314, the terminating number is actually outpulsed from the IP 402 of
FIG. 4 but switched and routed through SSCP 400 of FIG. 4, using SS7 for call
signaling. The SSCP 400 sends an Intelligent Network Application Part (INAP)
message, which preferably includes the customer's PIN, to ACD 600 to process the
call. When ACD 600 routes the call to an available service agent, it provides the
PIN in a "call ordered" message that is sent to an appropriate agent station 610
via CTI server 602 and Ethernet LAN 608. Agent station 610, in accordance with a

software application executing thereon, issues a TCP/IP query to the SDP 404 of
FIG. 4 via Internet Protocol network 320 of FIG. 3. The PIN is preferably included
in this query and used as a key in retrieving data from the customer's pre-paid
account on SDP 404 of FIG. 4. Other data elements or combinations of other data
elements can also be used as keys into the pre-paid account. The retrieved data is
then sent to agent station 610 for access by a service agent.

Detailed Description Text (26):
FIGS. 7A, 7B, 7C, 7D, and 7E depict a flowchart illustrating the process performed
within the network architecture of FIG. 2 to provide automated customer services
using pre-paid accounts. Although the process is detailed and described herein
presuming a network-based database, it should be understood that the process may be
implemented on a more local level. The flowchart assumes that the customer has DTMF
capability and does not time-out (i.e., fail to respond with required touch-tone
operations within a predetermined period for response). At any time during the call
to the transaction processor, the customer can time-out or enter a special DTMF
signal (e.g., "#0") and be transferred to the ISN platform for live operator
service, in accordance with U.S. patent application Ser. No. 08/956, 232.

Detailed Description Text (31):
In operation 728, the SSCP determines a terminating number for routing the call.
The pre-paid card service can be used for both single number terminations and
multiple number terminations. For a single number termination, all calls are routed
to a single termination, such as a CSC or specific group of agents in a CSC. For a
multiple number termination service, calls made to a single access number can be
routed by the SSCP one of multiple terminations. The resolution of the routing to a
single termination is performed by the SSCP, preferably based on a product type
that is included with the customer's pre-paid account, and/or based on caller
input. Alternately, other routing criteria may also be used to determine the proper
routing of a customer service call, including without limitation the geographical
location of the caller, time of day, and information stored in the corresponding
account record. When the terminating number is determined, the SSCP commands the IP
to place a call to the terminating number in operation. In operation 732, the IP
outpulses (using DTMF and based on commands from the SSCP) the terminating number,
and the call is routed through the switched network to an appropriate CSC.

Detailed Description Text (34):
In operation 742, the selected agent station receives selected data from the
customer's pre-paid service account on the SDP and preferably displays the data on
a screen to the agent. The data stored in a pre-paid service account can vary
widely based on the vendor's requirements. Product information, such as product
registration number and product type, can be provisioned in the pre-paid account
when the account is first configured and before any calls are accepted. Customer
information, such as customer name, geographical location, and service preferences,
can be collected by the IP during the call and stored in the SDP. Any of this
information can be retrieved by and presented to the agent station in operation
742. Alternately, access restrictions can limit the data accessible by the agent.

Detailed Description Text (46):
Operation 862 plays an audio message indicating the account balance associated with
the PIN. Service card accounts can be configured to provide service from a single
terminating number (e.g., a single service center handling all customer calls).
Alternately, accounts can be configured to provide services from more than one
terminating number (e.g., support for a product from a customer service center,
billing support from a financial service center, and account information from a
customer service center). Operation 864 determines whether the card has a single
terminating number. If the account supports a single terminating number, then
operation 865 records the termination number, which is required for call routing,
and proceeds to operation 880 to connect the call to the terminating number.

Detailed Description Text (47):
If the account supports multiple terminating numbers, operation 866 plays an audio
menu from which the caller may select using DTMF signals or voice responses, which
are monitored in operation 868. For example, the illustrated embodiment supports at
least six menu options: "account information", "customer service", "operator
assistance", "terminating number selection", "recharge", and "exit"; and two
exceptions: "time-out", and "invalid selection". The "account information" option
is implemented in operation 872, which plays a voice message indicating the
expiration date and account balance before returning to the audio menu of operation
866. The "customer service" option is implemented in operation 874, which transfers
the caller to a customer service representative. The customer service
representative can re-transfer the customer back into the service card system, if
necessary. The "operator assistance" option is implemented in operation 876, which.
transfers the caller to an operator via ISN 310 of FIG. 3. The operator can re-
transfer the customer back into the service card system, if necessary. The
"terminating number selection" option is implemented in operation 878, which
records the selected termination number and proceeds to operation 880 to connect
the call to the selected terminating number. The "recharge" option is implemented
in operation 833, which allows the caller to increase the balance the pre-paid
service card account. The "exit" option allows the caller to terminate the call,
which the caller may also accomplish by merely hanging up. If the caller "times-
out" or enters an invalid option, operation 870 determines whether to allow the
caller to retry the selection or to terminate the call. The foregoing describes a
set of preferred menu options and responses, but it should be recognized that other
options and responses are contemplated as being within the scope of the present
invention. For example, menu options can lead to sub-menus in a hierarchical menu
structure. Alternately, a particular option may require a predetermined password to
be entered to obtain access to certain features within the service card system.

CLAIMS:

1. A system for automating the routing of a customer call for a service and the
debiting of pre-paid accounts in payment for said service, said system comprising:

a customer service network;

a customer transaction database coupled to said customer service network for
storing an account record;

a transaction processor coupled to said customer transaction database and
configured to process said customer call received through said customer service
network and to route said customer call to an appropriate service center in
accordance with criteria relating to data recorded in said account record;

an agent station located at said appropriate service center and coupled to said
transaction processor to receive said customer call; and

a triggering signal to trigger a debit in said account record after an answer is
detected at said agent station.

5. A system for accepting a call from a customer for a service relating to a
product, customer or vendor and directing said call to an appropriate service
center, said system comprising:

a customer service network;

a customer transaction database coupled to said customer service network for
storing an account record; and

a transaction processor coupled to said customer transaction database and

configured to process said customer call received through said <u>customer service</u> network and to route said customer call to said appropriate service center in accordance with criteria relating to data recorded in said account record, wherein an agent station located at said appropriate service center and coupled to said transaction processor receives said customer call and said transaction processor triggers a debit in said account record after an answer is detected at said agent station.

7. The system according to claim 5 wherein said transaction processor is configured to receive a customer identification number from said customer during said call and to authorize said <u>service for said customer</u> in accordance with an account status recorded in said account record.

8. The system according to claim 5 wherein said transaction processor is configured to receive a customer identification number from said customer during said call and to authorize said <u>service for said customer</u> in accordance with an account balance recorded in said account record.

9. The system according to claim 5 wherein said <u>customer service</u> network is call accessible with a dedicated toll-free number.

24. A system for triggering a debit in a pre-paid account in payment for a service relating to a call between a <u>customer and a service</u> agent, said system comprising:

a call service center including an agent station;

a customer transaction database coupled to said call service center for storing an account record associated with said customer; and

a transaction processor coupled to said customer transaction database that receives said call from said customer and forwards said call to said call service center, said transaction processor being configured to debit said account record after said call is answered at said agent station.

39. A method of routing a call from a <u>customer for a service</u> and debiting a pre-paid account record in payment for said service, said method comprising:

receiving said call and a customer identification number;

using said customer identification number to locate said pre-paid account record in a customer transaction database;

routing said call to an appropriate service center in accordance with data contained in said pre-paid account record;

detecting an answer of said routed call by a service agent; and

debiting an account balance in said pre-paid account record, responsive to said operation of detecting an answer.

40. A method of routing a call from a <u>customer for a service,</u> said method comprising:

receiving said customer call and a customer identification number;

using said customer identification number to locate an account record in a customer transaction database;

routing said customer call to an appropriate service center in accordance with data contained in said account record, wherein an agent station located at said

appropriate service center and coupled to a transaction processor receives said customer call and said transaction processor triggers a debit in said account record after an answer is detected at said agent station.

42. A method for debiting an account record in payment for a service relating to a call between a customer and a service agent, said method comprising:

receiving said call and a customer identification number;

using said customer identification number to locate an account record in a customer transaction database;

detecting an answer of said routed call by a service agent; and

debiting an account balance in said account record, responsive to said operation of detecting an answer.

44. The method of claim 43 wherein the operation of limiting said duration of said call comprises:

prompting said customer with a recharge instruction if said account balance is substantially depleted;

receiving information from said customer to recharge said account; and

modifying said account balance in accordance with said received information.

46. A program storage medium, readable by a computer, tangibly embodying a program of instructions executable by said computer for routing a call from a customer for a service and triggering a debit in an account record in payment for said service, the program comprising instructions for:

receiving said call and a customer identification number;

using said customer identification number to locate said account record in a customer transaction database;

routing said call to an appropriate service center in accordance with data contained in said account record;

detecting an answer of said routed call by a service agent; and

triggering a debit in an account balance in said account record, responsive to said operation of detecting an answer.

47. A program storage device, readable by a computer, tangible embodying a program of instructions executable by said computer for routing a call from a customer for a service, the program comprising instructions for:

receiving said customer call and a customer identification number;

using said customer identification number to locate an account record in a customer transaction database; and

routing said customer call to an appropriate service center in accordance with data contained in said account record, wherein an agent station located at said appropriate service center and coupled to a transaction processor receives said customer call and said transaction processor triggers a debit in said account record after an answer is detected at said agent station.

48. A program storage medium, readable by a computer, tangibly embodying a program of instructions executable by said computer for triggering a debit in an account record in payment for a service relating to a call between a customer and a service agent, the program comprising instructions for:

receiving said call and a customer identification number;

using said customer identification number to locate said account record in a customer transaction database;

detecting an answer of said routed call by a service agent; and

triggering a debit in an account balance in said account record, responsive to said operation of detecting an answer.